TWELFTH NATIONAL TB PROGRAMME MANAGERS MEETING IN THE WESTERN PACIFIC REGION

13–15 March 2018
Manila, Philippines
Twelfth National TB Programme Managers Meeting in the Western Pacific Region
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MEETING REPORT

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MANAGERS MEETING IN THE WESTERN PACIFIC REGION

Convened by:

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC

Manila, Philippines
13–15 March 2018
NOTE

The views expressed in this report are those of the participants of the Twelfth National TB Programme Managers Meeting in the Western Pacific Region and do not necessarily reflect the policies of the conveners.

This report has been prepared by the World Health Organization Regional Office for the Western Pacific for Member States in the Region and for those who participated in the Twelfth National TB Programme Managers Meeting in the Western Pacific Region in Manila, Philippines from 13 to 15 March 2018.
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SUMMARY

Member States endorsed the *Regional Framework for Action on Implementation of the End TB Strategy in the Western Pacific, 2016–2020* during the sixty-sixth session of the WHO Regional Committee for the Western Pacific in October 2015.

The Twelfth National TB Programme Managers Meeting in the Western Pacific Region was held in Manila, Philippines from 13 to 15 March 2018. This meeting reviewed the progress of tuberculosis (TB) care and prevention in the Region and the status of the adaptation and implementation of the *End TB Strategy* and the Regional Framework for Action.

The objectives of the meeting were:

1) to review the implementation of the recommendations of the Eleventh National TB Programme Managers Meeting in the Western Pacific Region and Member States’ progress towards achieving the objectives of the *End TB Strategy* and the Regional Framework for Action;

2) to share country experiences and identify major challenges, particularly in the areas of private sector involvement, latent TB infection, drug-resistant TB (DR-TB), TB among vulnerable populations, and social protection;

3) to share the outcomes and discuss opportunities following the first WHO Global Ministerial Conference on Ending TB in the Sustainable Development Era; and

4) to agree on the way forward for addressing identified challenges and potential WHO support to strengthen TB care and prevention in the Region.

A total of 22 participants from 13 countries and areas with diverse epidemiological settings (low to high burden) attended the meeting. In addition, 7 temporary advisers and 18 observers representing different institutions and entities also participated.

With the exchange of country experiences and building an enabling environment to pursue regional TB care and prevention as a common goal, the meeting established the following major recommendations for the Member States:

1) To accelerate the implementation of the *Regional Framework for Action on Implementation of the End TB Strategy in the Western Pacific, 2016–2020* within a wider Sustainable Development Goal agenda.

2) To maximize the opportunities of the global events to ensure national commitments to scale up implementation through multisectoral and stakeholder engagement.

3) To promote and ensure strengthening of the regulatory mechanisms, especially for mandatory notification and sales of the anti-TB drugs outside the public sector, including strengthening of monitoring and evaluation.

4) To identify and implement innovative ways to engage the private sector and communities in addition to strengthening the existing mechanisms.

5) To improve and scale up screening and diagnostic algorithms with the use of more sensitive tools including chest radiography and WHO-recommended rapid diagnostic tests.

6) To accelerate the implementation of systematic screening of the nationally prioritized groups, preferably integrated with other public health programmes and other sectors.
7) To continue to seek ways to increase domestic financing, to ensure efficient use of available resources, including pursuing synergies with other sectors, and to promote an enabling environment towards transition to sustainable financing depending on the country context.

8) To assess and monitor the financial burden of TB patients and their affected families, identifying the main drivers of catastrophic costs. This information should be linked to improving health financing arrangements, service delivery models and TB-sensitive social protection mechanisms.

9) To promote and advocate multisectoral collaboration to address the socioeconomic and environmental determinants of TB through active engagement with non-health sectors such as social welfare, finance, justice, agriculture and labour.

10) To adopt and implement the diagnostic connectivity solutions by 2020 to ensure rapid transmission and effective use of laboratory results across different levels, while exploring ways to integrate with the national health information systems.

11) To explore piloting, adoption and implementation of new and innovative technologies that are and will be available to support various areas of TB care and prevention, based on the available evidence and country context.

12) To adopt and implement the WHO updated and consolidated guidelines for programmatic management of latent TB infection to accelerate the uptake of the testing and treatment for TB prevention. This includes introduction of new shorter treatment regimens to treat latent TB infection and expansion of the number of risk groups (HIV-negative children aged 5 years and older, adolescents and adults who are household contacts of TB patients as well as contacts of patients with multidrug-resistant TB (MDR-TB), and additional high-risk groups if necessary).

13) To address MDR-TB through a national emergency response in at least all high-burden countries in line with the Moscow Declaration to End TB.

14) To ensure that TB patients have universal access to drug susceptibility testing through policy changes and implementation by mobilizing financial, human, partnership and technical resources.

15) To ensure that all notified DR-TB patients have access to treatment by identifying barriers and addressing them.

16) To ensure patient-centred care for MDR-TB patients through the provision of packages of treatment adherence interventions (e.g. social, financial and psychological support; health education and counselling; and digital medication monitoring) and treatment administration options (e.g. community- or home-based observed treatment and video-observed treatment) to improve treatment outcomes.
1. INTRODUCTION

1.1 Meeting organization

The Twelfth National TB Programme Managers Meeting in the Western Pacific Region was held in Manila, Philippines from 13 to 15 March 2018. This meeting reviewed the progress of tuberculosis (TB) care and prevention in the Region and the status of the adaptation and implementation of the End TB Strategy and the Regional Framework for Action on Implementation of the End TB Strategy in the Western Pacific, 2016–2020.

1.2 Meeting objectives

The objectives of the meeting were:

1) to review the implementation of the recommendations of the Eleventh National TB Programme Managers Meeting in the Western Pacific Region and Member States’ progress towards achieving the objectives of the End TB Strategy and the Regional Framework for Action;

2) to share country experiences and identify major challenges, particularly in the areas of private sector involvement, latent TB infection, drug-resistant TB (DR-TB), TB among vulnerable populations, and social protection;

3) to share the outcomes and discuss opportunities following the first WHO Global Ministerial Conference on Ending TB in the Sustainable Development Era; and

4) to agree on the way forward for addressing identified challenges and potential WHO support to strengthen TB care and prevention in the Region.

2. PROCEEDINGS

2.1 Opening session

The meeting was opened by Dr Takeshi Kasai, Director of Programme Management, WHO Regional Office for the Western Pacific, on behalf of Dr Shin Young-soo, WHO Regional Director for the Western Pacific. Dr Kasai welcomed participants and stressed the importance of this year’s regional TB meeting, especially in light of the United Nations General Assembly High-level Meeting on TB in September 2018.

Video messages were delivered by Dr Tereza Kasaeva, Director of the Global TB Programme, WHO, and Dr Lucica Ditiu, Executive Director, Stop TB Partnership. Dr Kasaeva highlighted a range of global achievements made in the past and opportunities to further accelerate the efforts towards ending TB. Dr Ditiu highlighted the global issue of missing TB cases and the need to better use existing tools and interventions, and encouraged participants to discuss novel ideas.

This was followed by a presentation of the meeting objectives and introduction of the participants, observers and temporary advisers.
2.2 Implementing the End TB Strategy

2.2.1 Global TB situation and outcome of the Moscow Ministerial Conference

TB is the ninth leading cause of death worldwide. Globally, the TB mortality rate is falling at about 3% per year. Most deaths from TB could be prevented with early diagnosis and appropriate treatment. Between 2000 and 2016, about 53 million lives worldwide were saved thanks to rigorous evidence-based TB interventions. Presently, 62% of the global TB burden is in the WHO Western Pacific and South-East Asia Regions.

Countries are making efforts to end the global TB epidemic in line with the End TB Strategy. Globally, the TB case finding is improving. In 2016, 6.6 million people with TB were notified to national TB programmes and reported to WHO. Despite increases in notifications, progress in closing the detection gap is slow. In 2016, there was a gap of 4.1 million (39%) between notifications of new and relapse cases and the best estimate of the number of incident TB cases.

The organization of the first Global Ministerial Conference in Moscow in November 2017 was intended as a significant effort to place TB high on the global public health agenda. Member States adopted the Moscow Declaration highlighting their commitment to end TB as a political priority and advancing the TB response within universal health coverage (UHC), antimicrobial resistance (AMR) and the Sustainable Development Goals (SDGs). Several other high-level events emphasized the role of TB on the political agenda, including: the decision by the United Nations General Assembly for a High-Level Meeting on TB in September 2018, the G20 Leader’ Summit featured the fostering of TB research and development, and the spotlight on TB at high-level meetings such as the Asia-Pacific Economic Cooperation (APEC) forum, BRICS (Brazil, Russian Federation, India, China and South Africa) and G7.

2.2.2 Regional TB situation

The WHO Western Pacific Region accounted for 1.8 million (17%) of 10.4 million incident TB cases globally in 2016. The Region witnessed significant expansion of newer technologies and uptake of shorter regimens and new drugs for DR-TB in all high-burden countries in 2016. TB/HIV collaboration strengthened with over 60% rise in antiretroviral therapy (ART) coverage among co-infected patients. The Region continued spearheading the carrying out of national TB patient cost surveys and engaging with several global and local research initiatives.

However, TB remained a major public health problem with a slow reduction in incidence and about a quarter of the incident TB cases missed by the national TB programmes in the Region. The Philippines and China accounted for 83% of total missing cases. The gap is startlingly high among DR-TB cases, where only 13% of the estimated incident cases were initiated on treatment. There has also been little progress in addressing latent TB infection. Furthermore, the patient cost surveys reported a very high proportion of TB patients (30–60%) facing financial hardship. The socioeconomic determinants play a significant role in the incidence of TB in all high-burden countries, though more work needs to be done in these areas.
2.3 Improving TB treatment coverage

2.3.1 Outcome of the TB prevalence survey and plans to close case detection gap (Philippines)

In 2016–2017, the Philippines conducted the fourth prevalence survey to gain a better understanding of the burden and trend of the disease. The survey results showed that the TB burden in the country remains high (estimated prevalence of bacteriologically confirmed pulmonary TB cases among adults was 1159 per 100 000 population). Risk factors associated with TB were: 1) male; 2) older age group; 3) history of TB; 4) diabetes; 5) poverty and 6) urban dwellings. The survey also revealed that around 40% of incident TB cases are missed by the National TB Control Program.

Action points followed after the release of survey results included: 1) using chest X-ray as a screening tool and linking those with X-ray findings suggestive of TB to Xpert testing sites; 2) devising sustainable public–private partnership models (enhanced hospital engagement, integrated primary care and workplace models); 3) conducting systematic screening among high-risk groups. All these action points are part of the Philippines Strategic TB Elimination Plan 2017-2022.

2.3.2 Innovative examples of Public–Private Mix (Stop TB Partnership)

Several innovative initiatives of the Public–Private Mix model were shared by the Stop TB Partnership. One example was the Indus Hospital PP Screening Model in Pakistan. This model focuses on efforts to engage private practitioners (PP) at the hospital level. Based on this model, “lay screeners” are placed inside private clinics and track screening by using a custom m-health application. Performance-based incentives are provided to screeners and a multimedia outreach campaign has also been organized to demand services. This model had a significant impact and led to an 82% increase in treatment initiation.

Another example shared was the Social Enterprise at icddr,b project in Bangladesh. In this project, the screening centres are linked to a network of over 2000 doctors in the private sector. The doctors identify presumptive TB patients, and refer them to TB screening centres of the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) for confirmation of disease. If found positive, patients are further referred to public facilities for treatment. Patients who are already undergoing treatment in the private sector are also followed up and reported to the National TB Control Programme by icddr,b. The project increased TB case notifications by more than 22%.

2.3.3 Private Provider Interface Agency (PATH)

PATH also presented on the Private Provider Interface Agency project in Mumbai, India. The agency is contracted by the state government and is monitored by the Technical Support Group. It links the district TB control society and central TB division with the private sector (formal and informal medical practitioners, private health facilities, private laboratories and pharmacies). The project led to an eightfold increase in annual TB case notifications from the private sector. For the first time, patient treatment adherence data in the private sector were available and behaviour change was achieved among private sector providers.

2.3.4 Experience of Practical Approach to Lung Health (Viet Nam)

Since 2010, Viet Nam has been implementing the Practical Approach to Lung Health (PAL) in 97 outpatient management units on chronic obstructive pulmonary disease (COPD) and bronchial asthma. These units are located in 45 provinces. The purpose of PAL is to improve the quality of diagnosis,
treatment and prevention of TB and respiratory diseases in health-care facilities and also raise awareness of communities on TB, respiratory diseases and their risk factors. The main PAL activities implemented by the national TB programme included: 1) establishing Steering Committees in the implementing provinces; 2) developing handbooks and information, education and communication (IEC) materials on PAL; and 3) establishing Asthma/COPD and Green Breath clubs. PAL activities significantly contributed to the increase of TB case notifications and of community knowledge on respiratory diseases, as the results of the 2014 KAP (Knowledge, Attitude and Practice) survey show.

2.3.5 Experience of systematic screening in prisons (Mongolia)

Mongolia’s prison system consists of 23 prisons and 16 detention centres with an overall prison population of approximately 7000. TB control in prisons has two main characteristics: centralized TB treatment and double entry screening. These attributes were outlined in the joint ministerial order of the Ministry of Health and Ministry of Justice with clear descriptions of the roles and responsibilities of the relevant facilities. The systematic screening activities in prisons in the country led to a significant increase of TB case notifications in the penitentiary system.

The Government of Mongolia provided funding to build a new 100-bed hospital to improve health services provided to prisoners. Construction was completed and a new hospital started operations in February 2018. It has necessary diagnostic and treatment services to manage TB patients, but there is a lack of health-care workers available/willing to work in the penitentiary system.

2.3.6 Experience of systematic screening in migrant population (Brunei Darussalam)

The health screening for foreign workers is organized by the Occupational Health Division, Ministry of Health, Brunei Darussalam. The division has five objectives: 1) ensure early detection of diseases among foreign workers, 2) minimize the risk of disease transmission/importation to the local population, 3) ensure the low level of infectious diseases in the country is maintained, 4) reduce health-care costs, and 5) improve foreign workers’ productivity.

Screening is being implemented in different stages of migration. During the pre-departure period, all newly contracted foreign workers undergo a pre-departure medical examination and it needs to be undertaken in a health facility (in their country of origin) accredited by the Government of Brunei Darussalam and this screening needs to be completed prior to obtaining an employment entry visa. On arrival, migrant workers undergo on-arrival health screening at the Health Screening Centre in Brunei Darussalam. During the renewal of employment contract, foreign workers who have completed a two-year employment contract and wish to continue employment in Brunei Darussalam, must return to Brunei Darussalam within 90 days from the date of departure to allow them to be exempted from a pre-departure medical examination at the country of origin.

2.3.7 Group discussion

Participants were separated into four groups and discussed different strategies to improve treatment coverage: 1) strengthening engagement of private providers, civil society organizations and communities; 2) systematic screening; 3) uptake of newer diagnostics and scaling up laboratory services; and 4) role of regulations.
2.4 Sustainable financing and social protection (Pillar 2 of the End TB Strategy)

2.4.1 Transition to sustainable financing

Several countries in the Western Pacific Region are either in the process of transition, or beginning the process of transitioning away from long-term donors such as the Global Fund. Reductions in donor funding for disease programmes have obvious and significant implications for public health priorities in transitioning countries, particularly in terms of financing and health system governance. Lessons learnt from countries that have transitioned from all or some disease components funded by global health initiatives highlight the need for a systematic and phased transition process in order to sustain relevant and critical functions.

The transition process can act as a catalytic entry point to review and improve health system efficiency and performance, through, for example, rationalization and integration of disease-specific activities, or investing in broader health system functions such as procurement and supply chains, integrated health information systems and national UHC efforts. The Regional Framework for Action on Transitioning to Integrated Financing of Priority Public Health Programmes in the Western Pacific provides guidance to Members States on actions to help secure essential public health functions that can ensure the sustainability and resilience of their health systems.

2.4.2 Universal health coverage (UHC) and social protection

The global thrust towards UHC presents great opportunities to advance the TB response. UHC envisions all people having access to quality health services without facing financial hardship. A strong national TB response should always be an integral part of the national efforts towards UHC. Also the TB programme and its services should fulfil the key attributes of UHC such as equitable access, quality of care and financial protection. For example, without equitable access to TB services, some people continue to be undiagnosed and untreated. Poor quality TB care is the most critical cause of DR-TB. TB patients and families bear substantial financial burden due to TB and the End TB Strategy aimed at eliminating such catastrophic costs. Global and national TB responses should be fully aligned with the move towards UHC by progressively improving TB care in terms of equitable access, quality of care and financial risk protection.

Increasing evidence suggests that eliminating catastrophic costs due to TB cannot be achieved only through medical approaches. It is critical to enhance social protection through both strengthening TB-specific interventions and linking with general social protection schemes through multisectoral collaboration, especially with the labour, social welfare and development sectors.

National TB responses should be effectively linked with the national UHC agenda within the overall SDG framework. Highlighting the role of TB response in poverty reduction and overall development would be an effective way to communicate with high-level government and broader development partners.

2.4.3 Moving towards UHC (China)

China conducted a national TB patient cost survey in 2017, and preliminary results show that medical costs were a main driver, constituting 79% of total patient costs. There are several ongoing actions and initiatives to reduce physical and financial barriers to TB services. The central government has invested US$ 14.5 billion to enhance early diagnosis and treatment capacity as well as promote contract-based care provision by family doctors. TB patient pathway analysis and cost-sharing
mapping of how each TB service is financed by different sources (national TB programme budget, health insurance and out-of-pocket payment) help identify areas that need improvement.

The Government continues to expand basic health insurance coverage and improve allowances to promote UHC. The national TB programme is working towards reducing out-of-pocket payments of TB patients by piloting multiple measures (special outpatient reimbursement from the basic health insurance, provision of subsidies to poor and MDR-TB patients, etc.).

2.4.4 Enhanced primary health care (Malaysia)

Malaysia started strengthening primary health care in 2013 and developed the 11th Malaysia Plan that identified the top 10 priority health programmes. The initiative has been further accelerated with the support from the Prime Minister. Recognizing the increasing burden of noncommunicable diseases (NCDs), enhanced primary health care interventions were conceived and have been piloted at 20 sites since July 2017 with the aim to improve NCD outcomes. There are three major work streams in the pilot project: 1) community empowerment and health awareness 2) person-centred care bundles, and 3) integrated care networks.

2.4.5 Group discussion

Participants were separated into three groups and discussed challenges, best practices and recommendations on: 1) sustainable financing, 2) social protection, and 3) social and economic determinants of TB.

Based on the discussions, participants concluded the following:

- Some countries are progressively increasing their national budget for TB, particularly to cover drugs and commodities. An advocacy meeting for high-level government officials may be useful to increase funding.
- There are many TB-specific and non-specific social protection schemes and interventions in countries. The proposed actions include: linking TB patients with existing social protection schemes, strengthening collaboration with other sectors, and engaging civil society for advice on utilization of local rights and laws.
- There are several best practices to address social determinants of TB such as policy-level interventions (tobacco regulations, social protection schemes, TB immigration policy), operational measures including TB/HIV collaborative activities, and systematic screenings for high-risk populations. The proposed actions include promoting people-centred approaches, operational research to generate evidence on context-specific social determinants of TB, and multisectoral collaboration and engagement.

2.5 Innovations

2.5.1 Experience in diagnostic connectivity solution

The GxAlert online platform for MDR-TB diagnosis has been introduced in Papua New Guinea and the Philippines, with the aim to improve diagnostic connectivity and patient management. The benefits of using such technology are improved data quality with a real-time database system, efficient turnaround time of the results to clinicians and reduction in time to access treatment. GxAlert can also produce a specific dashboard with demographic and geographic-related information, which assists the programme to devise effective interventions once needed.
However, some challenges remain. For example, some mountainous, rural and remote areas have unstable Internet connectivity, which could lead to delays in transmittal of results. In addition, GxAlert is still separated from the national laboratory information system. For programme-wise management, synchronising results from GxAlert with the national laboratory information system will increase efficiency and accountability for the national surveillance system.

The use of diagnostic connectivity solutions in national TB programmes could accelerate the cost-effectiveness and efficiency in patient and programme management. Countries are encouraged to increase the coverage of such connectivity solutions.

2.5.2 Whole Genome Sequencing and Xpert Ultra

Whole genome sequencing (WGS) is a laboratory procedure that determines the order of bases in the genome of an organism in one process. It can help identify different strains of bacteria, predict drug susceptibility and resistance, and provide a better understanding of epidemiological patterns. The procedure was used to refine understanding of the epidemiology and acquisition of drug resistance in Daru Island of Papua New Guinea. The study confirmed that the MDR-TB outbreak on Daru Island was being driven by the transmission of a highly drug-resistant cluster of a modern Beijing sub-lineage strain.

Xpert Ultra is an upgraded version of Xpert MTB/RIF. In 2017, WHO recommended that Xpert MTB/RIF Ultra assay be used and that all recommendations for the use of Xpert MTB/RIF also apply to Xpert Ultra. Using Xpert Ultra leads to improved performance and improved turnaround time. However, in high-burden settings, it has been shown that an increase in sensitivity causes a reduction in overall specificity.

2.5.3 DHIS2 integration

DHIS2 (District Health Information System) is a software platform for health information management systems. It has multiple functions and applications that can be designed to manage TB surveillance data. The Lao People’s Democratic Republic took the initiative in integrating TB programme data into DHIS2 in late 2017, while TB modules for DHIS2 integration are under development by WHO. The system enables timely sharing and analysis of subnational TB surveillance data including visualization and tabulations. Several operational challenges include limited staff capacity at peripheral levels and poor Internet connectivity in remote/rural areas. The country may consider developing a case-based TB information system on DHIS2 in the future.

2.5.4 Introduction to digital solutions

In 2015, the WHO Global TB Programme and the European Respiratory Society released Digital Health for the End TB Strategy: An Agenda for Action. The action agenda defines how digital technologies could help achieve different goals in the End TB Strategy and provides a conceptual framework for digital health and TB. In 2017, WHO published its first evidence-based recommendations for the use of digital technologies in support of TB treatment delivery and adherence (handbook). Based on available evidence and feedback from users of short message service (SMS), medication event monitoring systems (MEMS) and video-supported treatment (VOT), the handbook details the main elements that the manager or other end-user needs to think through at different stages of implementation. The evidence base for the role of digital solutions in TB efforts is emerging, but challenges include lack of resources, rapid evolution of technologies and difficulty of study design.
2.5.5 Artificial intelligence for public health

Historical development showed that digital and modern technologies have reached levels where people can benefit and take advantage of artificial intelligence (AI) by using gadgets to complete “smart” tasks. AI can be used at any stage of the public health and disease spectrum. Examples of recent developments include using a smartphone for blood sugar level measurements for diabetes, automated DOT that the video system recognizes the patient’s face and medicines to monitor drug intake, computer-aided detection of TB to support assessment of X-ray results, robot-assisted surveys, and lab-on-a-chip to test laboratory specimens.

Combining genomics, bioinformatics and the Internet of things can facilitate deep learning in health. Protecting privacy and security remains a major challenge that hinders increased use of AI in public health. However, ways to address this include through legislation, informed consent and anonymization.

2.5.6 Country experience on innovations in TB service delivery (Australia and Japan)

The Australian TB programme has developed and implemented various innovative approaches to control TB such as evidence-based immigration TB screening and latent TB infection management. Australia is also pioneering generating evidence on chemoprophylaxis for MDR-TB. The country is aiming for zero TB transmission by applying newer technologies including whole genome sequencing.

In Japan, hospitals have developed a DOTS (directly observed treatment, short course) conference, which has implemented to strengthen individual patient management and care by mobilizing multiple players (including medical and non-medical staff) to discuss comprehensive issues of each individual patient. This is an innovative approach that promotes patient-centred TB care and prevention. Since the introduction of the DOTS conference, the rate of foreign-born TB patients lost to follow-up has declined. Development of a smartphone application to support treatment adherence for TB patients is also under way in Japan to reduce the workload for patient support, improve treatment outcome and further pursue patient-centred care.

2.6 Latent TB infection (LTBI)

2.6.1 Updates on LTBI

In the Western Pacific Region, the scale-up of TB preventive treatment has remained slow. In 2016, eight countries reported the provision of TB preventive treatment among people living with HIV, of whom only 41% newly enrolled in HIV care started isoniazid preventive therapy (IPT). In the same year, only 10% of estimated eligible child contacts below the age of 5 years received IPT in the Region. Operational challenges and insufficient focus on TB prevention may have resulted in the poor uptake of IPT.

In 2017, WHO updated its guidelines on latent TB infection (LTBI) and made recommendations focusing on risk group identification, algorithms to rule out TB, and testing and treatment options. Adoption and implementation of the WHO updated and consolidated guidelines for programmatic management of LTBI are urgently needed to accelerate the uptake of testing and treatment for TB prevention. This includes introduction of new shorter treatment regimens to treat LTBI and expansion of the number of risk groups for LTBI (HIV-negative children aged 5 years or younger, adolescents and adults who are household contacts of TB patients, as well as contacts of patients with MDR-TB, and additional high-risk groups if necessary).
2.6.2 LTBI experiences from country (Republic of Korea)

The Republic of Korea is a low TB burden country. Its national policy on LTBI involves targeting those in contact with TB and individuals from high-risk groups. The country has a scheme to detect and treat LTBI. They employ two types of tests: the TB skin test (TST) and Interferon-Gamma Release Assay (IGRA), which are applied in mass screening for LTBI and for testing of high-risk groups, respectively. The standard LTBI treatment regimens in the Republic of Korea are: 9H – nine months of isoniazid; 4R – four months of rifampicin; and 3RH – isoniazid plus rifampicin for three months.

2.6.3 Discussions

The effect of the bacille Calmette–Guérin (BCG) vaccine on the TST should be considered. In areas with high BCG coverage, such as Hong Kong SAR (China), where coverage is extremely high and close to 100%, the BCG vaccine may affect the TST. Risk assessments are required to assess the risk from exposure to MDR-TB patients.

In Japan, of those newly infected with TB, 30% of infections are acquired within the household, 30% are acquired in hospital, and 10% are among the elderly. This is according to a variable number tandem repeat (VNTR) study in a prefecture in Japan. Contact investigation has been expanded from within household to also include hospitals, workplaces and other social contacts. Treatment and compliance are important for those with TB who are in contact with children below the age of 5 years. In Japan, the TST is no longer used; the IGRA test is used instead.

2.7 Programmatic management of drug-resistant TB (PMDT)

2.7.1 PMDT update, regional situation

In 2016, globally, the estimated number of incident MDR-TB cases was 601,000. The highest estimated numbers of incident MDR-TB cases were in the WHO South-East Asia Region (214,000) followed by the European Region (122,000) and then the Western Pacific Region (119,000). Four countries from the Western Pacific Region – China, the Philippines, Viet Nam and Papua New Guinea – are in the WHO list of 30 high MDR-TB burden countries. Countries in the Region are making efforts to improve implementation of programmatic management of DR-TB. There has been a gradual increase in the access to new diagnostic tools, novel treatment regimens, and new and repurposed drugs in the Region.

However, several gaps remain. In 2016, only 19% of TB patients had drug susceptibility testing (DST) for at least rifampicin, and 20% of notified rifampicin-resistant TB (RR-TB)/MDR-TB cases had drug susceptibility testing for fluoroquinolones and second-line injectables. This has resulted in the low detection of DR-TB in the Region. In addition, among detected RR/MDR-TB cases, 30% did not have access to the second-line treatment. Only about half of the enrolled DR-TB patients had successful treatment outcomes. Moreover, the WHO-recommended policy on active TB drug-safety monitoring and management has also remained inadequately implemented.

Major challenges include: slow policy changes, weak regulations, financial gaps, insufficient human resources, limited technical and operational capacities, and missed opportunities to work across sectors and with other partners, especially community-based or civil society organizations.
2.7.2 Experience on bedaquiline and active TB drug-safety monitoring and management (aDSM)

The bedaquiline donation programme is a four-year programme intended to provide up to 30 000 treatments for eligible patients with 110 low- and middle-income countries benefiting. Some progress has been observed in provision of access to new drugs. By February 2018, 69 countries ordered bedaquiline for around 8000 patients. During the same reporting period, 40 countries requested delamanid for 4929 patients. However, several challenges contribute to the slow uptake of new drugs. Bedaquiline enrolment is not systematically reported by countries to WHO and many eligible patients still do not have access to new drugs.

Regarding active TB drug-safety monitoring and management, some progress has been observed. Countries have started the procurement of audiometers and electrocardiogram (ECG) machines, clinical and laboratory algorithms have been developed for proper monitoring of adverse drug reactions, and serious adverse events have started to be reported at national and global levels.

2.7.3 STREAM and delamanid phase III trial results

There was a phase III clinical trial on the drug delamanid to evaluate its safety and efficacy. In November 2017, Otsuka released Trial 213 data to WHO and the European Medicines Agency. Following this, WHO conducted an expedited review of the phase III clinical trial data. In January 2018, WHO released a position statement on the use of delamanid in MDR-TB patients based on the trial data. It stated that the current interim and conditional guidance on delamanid remains in place. However, national TB programmes and other stakeholders are advised to only add delamanid to a longer MDR-TB regimen when it cannot be composed according to WHO recommendations. When an effective and well-tolerated longer MDR-TB regimen can be otherwise composed, the addition of delamanid may not be warranted.

STREAM trial results on the shorter MDR-TB regimen also showed that high treatment success rates are achievable when the WHO-recommended treatment regimen is delivered under quality patient-centred care. The shorter regimen is still recommended but good active TB drug-safety monitoring and management should be in place. It is also necessary to continue strengthening the capacity of national programmes for the proper diagnosis of DR-TB, especially the laboratory capacity for drug susceptibility testing and ensuring the careful selection of the regimen based on the eligibility criteria.

2.7.4 Experience on shorter MDR-T regimen in Lao PDR and Viet Nam

The Lao People’s Democratic Republic has been implementing the shorter MDR-TB treatment regimen for several years. Since 2015, treatment success rates for MDR-TB cohorts have been over 80%.

In Viet Nam, 101 patients started the shorter treatment regimen. The conversion rate at four months was more than 85% in short regimen cohorts and nearly 60% of patients on the shorter treatment regimen had adverse drug reactions. A total of 97 patients were receiving the bedaquiline-containing regimens and the conversion rate was over 80% in this cohort of patients.

2.7.5 Experience on conventional MDR-TB regimen (Cambodia)

The national TB programme and the Cambodian Health Committee (CHC) have established an excellent system of decentralized MDR-TB treatment, with the support of local nurses and village health workers. Hospitalization is usually limited to 1–2 weeks for initial workup, treatment initiation
and adverse effect monitoring, unless the patient is critically ill or there are major social concerns. In selected patients, treatment is initiated in the community.

2.7.6 Emergency response for DR-TB (Papua New Guinea)

Establishment and functioning of the Emergency Response Team (ERT) in Papua New Guinea has led to increased resource mobilization, bold partnerships and improvement in service delivery. The secretariat function (coordination and communication) for the Emergency Response Team is provided by WHO.

Regular meetings are conducted to discuss updates and issues from the field. Small working groups follow up specific tasks with the aim to improve programme performance.

2.7.7 Updates from the Global Drug Facility

The Global Drug Facility (GDF) plays a valuable role in procurement and supply management (PSM) and introduction of new tools. It coordinates the work of the Procurement & Market-Shaping Action Team (TPMAT) on policy guidance to accelerate uptake of new medicines. In addition, GDF provides accurate forecasts for procurement of all products and ensures availability of medicines at lowest-possible and sustainable prices. GDF also uses a new strategic rotating-stockpile tool to smooth production cycles, accelerate orders and scale up access to second-line medicines. On top of that, GDF provides a flexible procurement fund to bridge procurement costs when funds are not readily available in countries.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

3.1.1 Implementation of the End TB Strategy

The WHO Western Pacific Region accounted for 1.8 million of 10.4 million incident TB cases globally in 2016. The Region witnessed significant progress in dealing with TB by expanding newer technologies and taking up new drugs and shorter regimens for DR-TB in all high-burden countries. TB/HIV programme collaboration was strengthened and antiretroviral therapy (ART) coverage with a rose to over 60% among patients with co-infections. The Region continued spearheading national TB patient cost surveys and engaging with several global and local research initiatives.

However, TB remained a major public health problem in the Region with a slow reduction in incidence and about a quarter of cases missed by the national TB programmes. China and the Philippines collectively accounted for 83% of total missing cases. The gap is startlingly high among DR-TB cases, for which only 13% of the estimated incident cases were initiated on treatment. More progress is required to addressing LTBI. The patient cost surveys reported a very high proportion of TB patients (30–60%) facing financial hardship. The socioeconomic determinants play a significant role in the incidence of TB in all high-burden countries, but more work is needed in these areas.

There was a significant effort to place TB high on the global public health agenda. Among other high-level events that were organized, the first Global Ministerial Conference was held in Moscow in November 2017. It ended with the Moscow Declaration to End TB, which highlighted the commitments of Member States to end TB as a political priority and as a contribution to achieve
universal health coverage. The United Nations General Assembly will convene a high-level meeting on TB in September 2018, which will be a critical opportunity to accelerate efforts in ending TB.

3.1.2 Improving TB treatment coverage

TB treatment coverage was estimated at 76% in 2016 for the Western Pacific Region, but varies widely from 40% to 87% in high-priority countries. There are many examples of efforts to improve TB treatment coverage, including engagement of the private sector in the Philippines, implementation of the Practical Approach to Lung Health in Viet Nam; and systematic screening among vulnerable populations (e.g. in prisons in Mongolia or among migrants in Brunei Darussalam).

Several challenges contribute to the gaps in finding TB cases, including: 1) poor health-seeking behaviour; 2) financial and other barriers in access; 3) large private sector treating sizeable proportion of TB patients, not adequately engaged; 4) limited or no implementation of mandatory notification; 5) inadequate expansion of newer technologies; 6) restrictive diagnostic algorithm; and 7) limited efforts on systematic screening. Multiple factors contribute to these challenges, including: insufficient resources to implement strategies; limited mutual trust with the private sector; varied acceptability of interventions among patients; inadequate community engagements; and inadequate or no implementation of necessary regulations.

3.1.3 Sustainable financing and social protection

Many countries in the Region are facing reduced external funding for priority public health programmes including TB. The Regional Framework for Action on Transitioning to Integrated Financing of Priority Public Health Services in the Western Pacific was endorsed in 2016 urging Member States to secure essential public health functions and services, develop phased transition plans and monitor their impact.

TB is a critical and integral part of the universal health coverage agenda, and social protection is a major component of SDG 1 (no poverty). Countries are increasingly conducting national TB patient cost surveys to assess the financial burden of TB patients and their families. Member States have been using the survey results to identify areas for improvement in health financing arrangements and service delivery models, as well as social protection mechanisms.

3.1.4 Innovations

Countries in the Region remain slow to adopt the diagnostic connectivity solution recommended by WHO. In April 2017, WHO released its first evidence-based recommendations for the use of digital technologies in support of the administration of TB treatment and medication adherence. This includes short message service (SMS), video-supported treatment (VOT) and medication event monitoring systems (MEMS).

Many other opportunities exist in the area of e-health applications, which Member States can adopt depending on their country context.

3.1.5 Latent TB infection

In the Western Pacific Region, the scale-up of TB preventive treatment has remained slow. In 2016, eight countries reported the provision of TB preventive treatment among people living with HIV with only 41% newly enrolled in HIV care started on isoniazid preventive therapy. During the same year, only 10% of the estimated number of child contacts (younger than 5 years of age) of patients with
bacteriologically confirmed TB received the therapy in the Region. Operational challenges and insufficient focus on TB prevention may have resulted in the poor uptake.

In 2017, WHO updated its guidelines on LTBI and made recommendations focusing on risk group identification, algorithms to rule out TB, and testing and treatment options.

3.1.6 Programmatic management of drug-resistant TB

There is a gradual increase in the access to new diagnostic tools, novel treatment regimens, and new and repurposed drugs in the Region. However, several gaps remain. The low coverage of drug susceptibility testing and limited access to second-line treatments need to be addressed to improve detection and treatment of DR-TB. Moreover, the WHO-recommended policy on active drug safety monitoring and management needs to be more adequately implemented.

Major challenges include: slow policy changes, weak regulations, financial gaps, insufficient human resources, limited technical and operational capacities, and missed opportunities to work across sectors and with other partners, especially community-based or civil society organizations.

3.2 Recommendations

3.2.1 Recommendations for Member States

Member States are encouraged to consider the following:

1) Accelerate the implementation of the *Regional Framework for Action on Implementation of the End TB Strategy in the Western Pacific, 2016–2020* within a wider SDG agenda.

2) Maximize the opportunities of the global events to ensure national commitments to scale up implementation through multisectoral and stakeholder engagement.

3) Promote and ensure strengthening of the regulatory mechanisms, especially for mandatory notification and sales of the anti-TB drugs outside the public sector, including strengthening of monitoring and evaluation.

4) Identify and implement innovative ways to engage the private sector and communities in addition to strengthening the existing mechanisms.

5) Improve and scale up screening and diagnostic algorithms with the use of more sensitive tools including chest radiography and WHO-recommended rapid diagnostic tests.

6) Accelerate the implementation of systematic screening of the nationally prioritized groups, preferably integrated with other public health programmes and other sectors.

7) Continue to seek ways to increase domestic financing, to ensure efficient use of available resources, including pursuing synergies with other sectors, and to promote an enabling environment towards transition to sustainable financing depending on the country context.

8) Assess and monitor the financial burden of TB patients and their affected families, identifying the main drivers of catastrophic costs. This information should be linked to improving health financing arrangements, service delivery models and TB-sensitive social protection mechanisms.
9) Promote and advocate multisectoral collaboration to address the socioeconomic and environmental determinants of TB through active engagement with non-health sectors such as social welfare, finance, justice, agriculture and labour.

10) Adopt and implement the diagnostic connectivity solutions by 2020 to ensure rapid transmission and effective use of laboratory results across different levels, while exploring ways to integrate with the national health information systems.

11) Explore piloting, adoption and implementation of new and innovative technologies that are and will be available to support various areas of TB care and prevention, based on the available evidence and country context.

12) Adopt and implement the WHO updated and consolidated guidelines for programmatic management of latent TB infection to accelerate the uptake of the testing and treatment for TB prevention. This includes introduction of new shorter treatment regimens to treat latent TB infection and expansion of the number of risk groups (HIV-negative children aged 5 years and older, adolescents and adults who are household contacts of TB patients as well as contacts of patients with MDR-TB, and additional high-risk groups if necessary).

13) Address MDR-TB through a national emergency response in at least all high-burden countries in line with the Moscow Declaration to End TB.

14) Ensure that TB patients have universal access to drug susceptibility testing through policy changes and implementation by mobilizing financial, human, partnership and technical resources.

15) Ensure that all notified DR-TB patients have access to treatment by identifying barriers and addressing them.

16) Ensure patient-centred care for MDR-TB patients through the provision of packages of treatment adherence interventions (e.g. social, financial and psychological support; health education and counselling; and digital medication monitoring) and treatment administration options (e.g. community- or home-based observed treatment and video- observed treatment) to improve treatment outcomes.

### 3.2.2 Recommendations for WHO

WHO is requested to do the following:

1) Continue to support Member States in their efforts to accelerate implementation of the *Regional Framework for Action on Implementation of the End TB Strategy in the Western Pacific, 2016–2020*.

2) Intensify regional and global efforts to ensure commitments and actions of governments and partners to end the TB epidemic.

3) Provide technical support to Member States in designing, implementing and monitoring strategies for improving TB treatment coverage.

4) Continue to advocate increasing resources and strong regulations, and to identify and share best practices.

5) Provide technical support to Member States to implement the *Regional Framework for Action on Transitioning to Integrated Financing of Priority Public Health Services*, and to facilitate
policy dialogue and disseminate country experiences on transitioning to integrated financing and service delivery.

6) Continue to provide technical support to Member States for the national TB patient cost surveys, assist in analysis and interpretation of the results, and help facilitate policy dialogue to improve health financing arrangements and service delivery models, as well as social protection mechanisms.

7) Promote and support operational research that generates solid evidence for decision-making in the adoption and implementation of innovative technologies.

8) Liaise with donors and technical partners to provide the coordinated technical and financial support for adoption and implementation of innovative technologies.

9) Support Member States in adopting and implementing new latent TB infection guidelines by providing technical support and advocating mobilizing required resources.

10) Continue to manage the regional Green Light Committee (rGLC) mechanism as the secretariat to provide necessary guidance to Member States to strengthen national systems in managing DR-TB within universal health coverage, antimicrobial resistance and emergency response contexts.